

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
11 November 2004 (11.11.2004)

PCT

(10) International Publication Number  
**WO 2004/097386 A1**

(51) International Patent Classification<sup>7</sup>: **G01N 23/04,**  
H05G 1/60, A61B 6/03

(21) International Application Number:  
PCT/GB2004/001729

(22) International Filing Date: 23 April 2004 (23.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0309387.9 25 April 2003 (25.04.2003) GB

(71) Applicant (for all designated States except US): **CRX LIMITED** [GB/GB]; Unit 5, Riverside Business Centre, Walnut Tree Close, Guildford GU1 4UG (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MORTON, Edward, James** [GB/GB]; 37 Banders Rise, Guildford,

Surrey GU1 2SL (GB). **LUGGAR, Russell, David** [GB/GB]; 17 Dene Street Gardens, Dorking, Surrey RH4 2DN (GB). **DE ANTONIS, Paul** [GB/GB]; 3 Vale Drive, Horsham, West Sussex RH12 2JU (GB).

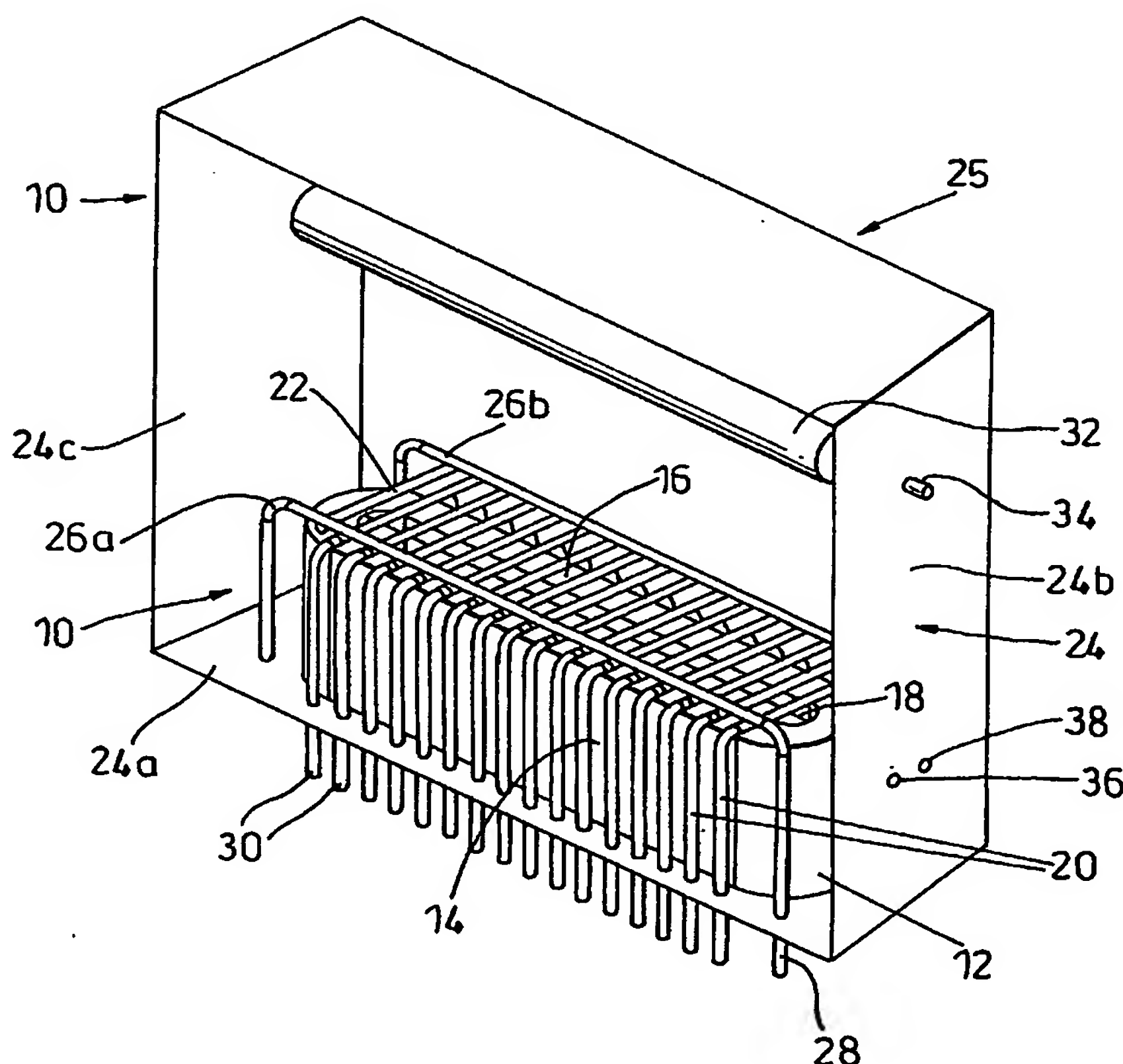
(74) Agent: **BARKER BRETTELL**; 138 Hagley Road, Edgbaston, Birmingham B16 9PW (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: CONTROL MEANS FOR HEAT LOAD IN X-RAY SCANNING APPARATUS



(57) Abstract: An X-ray scanning apparatus comprises a number of multi-focus X-ray tubes (25) spaced around an axis X and arranged to emit X-rays through an object on the axis which are detected by sensors (52). Each tube (25) can emit X-rays from a plurality of source positions. In each scanning cycle, in which each of the source positions in each of the tubes is used once, the ordering of the positions used is arranged so as to minimize the thermal load on the tubes (25). This is achieved by ensuring that each source position is non-adjacent to the previously active one and the next active one.



GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*